

Teagasc Notes for week ending Friday 31st January 2020

Teagasc Climate Change Series No. 6:

Forestry

By Tom Houlihan, Teagasc

In addition to achieving farm efficiencies, Teagasc has identified the appropriate and sustainable planting of trees as a key strategy to help reduce agricultural emissions. Farm forestry can therefore be an ally in the search for agricultural sustainability. The removal of carbon dioxide (CO₂) from our atmosphere and its storage in plant biomass, deadwood and harvested wood products is termed sequestration. For example, approximately 4.3 tonnes of CO₂ per hectare per year are taken up (sequestered) from the total national forest estate of over 770,000 hectares. This is an average figure and takes into account all different types of tree species, levels of harvest and ages growing on a range of different soil types. This estimated sequestration includes removals and emissions from biomass, litter, deadwood, soils and harvested wood products.

So how does forestry help reduce emissions? There are a number of ways that trees, woodlands and forests can help reduce greenhouse gas emissions to the atmosphere, not only through the appropriate management of existing forests and the creation of new ones, but also in the utilisation of sustainable wood products for energy. The use of wood biomass energy in Ireland results in emission savings from the displacement of fossil fuels. In 2018, the output of the forest-based biomass energy sector resulted in a saving of 0.88 million tonnes of CO₂ equivalent. In addition, substitution of energy-intensive products derived from aluminium, concrete and steel by wood products significantly reduces the energy cost of buildings and provides us with sustainable solutions for the building sector.

To help meet climate targets, Ireland can avail of flexibilities which include offsetting emissions by sequestering CO₂ in woody perennial biomass and soils through land use management (of forestry, grasslands, wetlands and croplands) and land-use change (from cropland to forestry for instance)

Through these processes, future trees and forests can play an important and complementary on-farm role in combating climate change. New woodlands and forests established now will have a particularly important and beneficial role to play beyond 2030. Forests provide a range of raw materials for industry as well as services to society. In order to sustain production and service provision, a well-balanced age structure is needed at the national forest level.

Climate change mitigation is strongly dependent on having young age classes to balance out harvest and other decreases in carbon stocks. In the Irish context, maintaining the climate change benefits of Irish forests will require a significant national planting programme over the next two decades. Achievement of this goal will not only sustain the ability of the national forest estate to remove CO₂ from the atmosphere, it will also provide a renewable energy resource and a sustainable raw material for construction and a range of other uses.

Other Environmental Benefits

As well as their important role in redressing climate change, well-sited, designed and managed woodlands and forests deliver other environmental benefits, particularly in the areas of water quality and biodiversity. Such benefits include the protection of water quality, whereby trees stabilise river banks and areas of woodland buffer against nutrient runoff. They also help retain water after heavy

rainfall, and therefore can form part of wider landscape efforts to manage flood risk. Woodlands and forests can also provide habitats for a wide range of species, and play an important role in connect habitats within the wider landscape. Woodlands and forests also enhance the landscape and provide places for recreation and for people to enjoy the outdoors. They can provide the ideal educational resource in which to learn about and appreciate the environment.

Farm Forestry Option

With the current planting season well underway, it is worthwhile considering how forestry can benefit many farming profiles, and potentially contributing to their environmental and income enhancement. Forests take time to mature, gradually delivering more and more ecosystem goods and services such as timber production, carbon sequestration, recreation and air quality improvement. The current forestry measures can provide landowners with options to help achieve this. For further information, contact your local forestry advisor or log onto www.teagasc.ie/forestry . Michael Somers is the Teagasc Forestry Advisor for counties Kilkenny, Tipperary and Clare while John Casey covers counties Waterford and Cork. Michael, John and forestry advisory colleagues are available to answer your queries and help you explore forestry as an option on the farm.

Teagasc Event

The Teagasc National Sheep Conference will take place on the 30th January at 6pm in the Springhill Court Hotel. Topics will include:

1. Efficient use of nutrients in your production system. David Wall, a soil science researcher from Teagasc, Johnstown Castle,
2. Teagasc sheep geneticist, Noirin McHugh, will outline how the use of improved genetics can boost lamb production on farms in Ireland, through increased litter size and lamb growth rates.
3. Teagasc researcher, Orla Keane, will outline sustainable strategies for stomach worm control and steps for farmers to take when selecting and administering wormers to slow the further development of resistance.
4. John O'Connell is a participant in the Teagasc Better Farm Sheep Programme and he will outline his plan for 'growing his farm', discussing the challenges he has encountered and the progress made to-date in implementing his plan.

